The politics of good food : why food engineers and citizen-consumers are talking at cross-purposes

Summary

Chapter 1
As the food supply chain has become longer, more complex and opaque over the past fifty years, the gap between those who make food and those who eat it has widened. Public (dis)trust has become a major food issue – in particular where *technology* is involved. One explanation for distrust in food technology and innovation is that technology (en)actors fail to be responsive to a particular set of consumer-citizen concerns. Trust cannot be forced, but trustworthiness —a precondition for trust—can be enhanced. For the agri-food sector this means acting reliably, but also explicating the norms and values they act upon. After all, trust is a matter of normative expectations. Also, trustworthiness means to be responsive to public concerns and engage in a critical discussion about those norms and values. Responsiveness implies the readiness to provisionally acknowledge the legitimacy of raised concerns, and the willingness to think and speak about them. *Responsible innovation in food technology* means that technology (en)actors are, at least, sufficiently responsive to a broad variety of societal concerns.

The main problem addressed in this dissertation is that a particular set of consumer-citizen concerns are structurally marginalized – by food engineers, policy makers, and even citizen-consumers – and kept away from the food innovation agenda. This is both a problem of democratic legitimacy (low acceptability) and of efficacy of costly innovations (low acceptance). With this dissertation, I offer an explanation of the problem and a perspective on solutions. The explanation consists of an analysis of the public discourse of food technology and innovation: I identify three conditions of the innovation agenda (often implicitly relied on by stakeholders) that make up for an artificial and untenable dichotomy between hard issues and soft concerns. My solution is two-fold. I present recommendations for several stakeholder groups for how to make sure that this dichotomy will no longer pose an obstacle to fruitful stakeholder dialogue on food technologies and innovations; and I present a particular tool for dialogue facilitators who aim to give 'soft concerns' a fair opportunity to gain access to the innovation

agenda.

Chapter 2

Food engineers and policy makers do recognize that public trust is a crucial ingredient for technological food innovations, and often consider this a reason to call for more transparency in the food chain and to provide objective, independent, consistent and unambiguous information to consumers (e.g. by labeling). But from the persistent distrust of food additives we learn that transparency and labeling do not necessarily dissolve the problem of distrust.

My claim is that the persistence of distrust (of food additives) cannot be adequately understood without taking into account the wider range of ethical, aesthetic and cultural concerns. The idea that public dialogue should be organized more inclusively is nothing new, but to do this successfully requires a more in-depth understanding of what keeps engineers, policy makers, manufacturers and consumers from doing so. In my analysis of controversies on E-numbers, I have identified two discursive mechanisms: irrationalization and privatization. Irrationalization occurs where consumers who raise concerns are instantly labeled by technology (en)actors as emotional, inconsistent and uninformed. A more charitable interpretation, however, demonstrates that some of these concerns are more reasonable than they seem at face value. The preference for natural food can be understood as a consumer strategy to deal with the individual's responsibility to choose safe and healthy food and the problem of how to identify them. It is not necessarily a rejection of modern technology, or a flight to the past, but a pragmatic retreat to the familiar and recognizable. This is a procedural concern closely related to the concern for safety and health.

There are also more substantial concerns that have little to do with health and safety. The social meal argument is raised when consumers are concerned that food additives enable fast dinners to be enjoyed in solitude. Also, there is the concern that convenience foods may induce laziness and indifference: they compete with the pleasure of cooking. And there is the concern about the decay of taste and food culture. These concerns point out that food is a bearer of culture, a source of taste and pleasure, and an ingredient of the good life. Consumer-

citizens are concerned that this is gradually disappearing due to modern food technologies.

These concerns are not unreasonable once we realize that food additives do subscribe to ethical, cultural and aesthetic values and norms. In fact, this is how technology (en)actors themselves justify and promote the use of food additives. The mechanism of privatization occurs where concerns are excluded from the agenda for the reason that they do not deserve public attention – e.g. because they are considered to be informed by subjective and individual experiences; and thus cannot be expected to offer a common ground for meaningful (dis)agreement. This exclusion often relies on the logic of the free market: no one is actually forced to buy or eat anything, especially if consumers have a large range of options to choose from. Therefore, there would be no reason for discussing such concerns in the first place.

However, I suggest that we understand some of these consumer concerns as an attempt to re-imagine which impacts of food technology count as public matters. Several scholars in STS and philosophy of technology have made clear that technologies mediate: they invite, hinder, enable, transform, guide, and restrict human action. In qualifying technologies as matters of public concern, they question the pervasiveness and desirability of technology's impacts.

Thus, the ethical, cultural, and aesthetic concerns about food additives cannot be dismissed for the reason that the consumption of processed food is simply a matter of individual and free choice, because that is exactly the claim that is contested in the first place. Such concerns are not as private as they seem. The recurrent appeal to consumer autonomy fails to recognize the mediating character of food additives, or at least paralyzes any meaningful public dialogue about it.

Chapter 3

Upon a closer look, we see that these two mechanisms are the manifestation of three implicit requirements that prescribe what types of concerns qualify as legitimate topics on the public innovation agenda. These requirements are three conditions for meaningful discussion. Each of them is grounded in a broader view of knowledge,

politics and technology respectively. With the notion of public innovation agenda I mean that part of the public agenda that seeks to inform various institutional agendas, and which in itself is shaped in and through informal public debate. The public innovation agenda is a set of issues (regarding technological innovation) commonly recognized by public and institutional actors as deserving attention and deliberation. This agenda is reflected in policy reports, consumer platforms, news media coverage, corporate mission statements, advertising, and so on. It is essentially a discourse agenda.

The three conditions discussed below prescribe what kind of concerns do and do not have access to the public innovation agenda.

(I) The condition of quantifiability prescribes that a concern's substance is appropriate for measurement and can be expressed in quantitative terms. This idea relies on a positivist conception of knowledge and science. There are good reasons for this demand: (1) numbers give an accurate and stable representation of the world; (2) regularities allow for prediction and control; (3) calculation suggests impartiality, enabling accountability and the settlement of conflict; and (4) quantification enables standardization and comparison. Nevertheless, even the simplest operation of counting is an act of interpretation. In highly disputed matters, the use of numbers does not necessarily result in normative or epistemic agreement. Numbers may *conceal* but cannot *substitute* normative judgments. Numbers don't speak for themselves. More importantly, *anything* can be counted and measured as soon as people decide to do so. People need good reasons to start quantifying qualitative concepts; and concerns may exactly offer those reasons. Also, by quantification we may get lost in translation: important experiences, meanings and values can be standardized, reduced, set aside and forgotten. Fortunately, apart from the repertoire of positivist science, scientific communities have many more resources to draw on in order to account for public problems, such as the hermeneutic arts and sciences.

(II) The condition of publicity prescribes that a concern appeals to values commonly recognized by all of us; and that it proposes norms that, in principle we can all agree on – no matter how different our experiences and world views may be. This idea is grounded in the

liberal ideal of public reason, and is also expressed in the harm principle, according to which thick conceptions of the good life cannot justify coercion on behalf of the polity. The condition of publicity determines the boundary between public matters and private concerns. On a pragmatic account, the liberal conception of public reason can do three things for us. (1) It is a practical way of avoiding endless and useless debate on things citizens may never agree on; (2) it relies on a negative conception of liberty, and negative goals are easier to define and less controversial; (3) the public/private distinction – shorthand for a great amount of ethical considerations – serves in everyday life as a convenient moral guideline. The problem with this condition is not liberalism as such, but the narrow way in which it is often applied in public debate. Most liberals distinguish between a sphere of legitimate power and a sphere of discussion. In the latter, the condition of publicity does not necessarily apply. The idea that in public debate, concerns should only appeal to *uncontroversial* values and meanings is based on the tacit assumption that all public propositions are candidates for state legislation (I call this anticipatory liberalism). This idea frustrates the quality of public discourse, in its richness and depth. Furthermore, what counts as harm is not as clear-cut as it seems and sometimes requires public deliberation on substantial values. This is also true for the public/private distinction: citizens should have the opportunity to convince others that concerns now considered private, should actually be regarded as public matters. The incomplete but popular interpretation of the ideal of public reason, forestalls every public discussion on good food, good taste and the good life.

(III) The condition of causality prescribes that a concern articulates a problem as the clear consequence of either human action or technology. The idea behind this is that causal explanation should be prior to the attribution of moral responsibility (for tackling the problem). Satisfactory causal explanations – necessary for successful agenda setting – are restricted to relevant causes. Causes can be relevant in three senses: (1) causes are extraordinary events against the background of normal and trivial situations; (2) causes highlight the factor of human agency in the sense that these causes can be controlled or eliminated; and (3) causes are clear and distinct from other factors; they do not point at fuzzy interactions between humans

and non-humans. If a causal explanation meets these three requirements, it becomes easier to ascribe or accept moral responsibility. However, causal explanation does not always precede attribution of responsibility. The act of reporting and selecting facts in presenting a causal story may already suggest – intended or not – some attribution of moral responsibility in the first place. Also, the condition of causality wrongfully presupposes that technologies are mere instruments, not agents; and that human actions can be clearly distinguished from material conditions and circumstances. Technologies are more than just instruments as they are able to suggest, modify, or compromise our goals and plans. Problems can be brought about by an *association* of humans and technological artefacts. Such are many-hands problems. It may be impossible to express this problem in terms of who is to blame, but if one, in contrast, is interested in the articulation of forward-looking responsibilities, this does not necessarily pose a problem. In sum, the three conditions of the public innovation agenda (quantifiability, publicity, causality) can be useful but there is a price to pay: vital aspects of our relation to food, and how they are affected through food technology and innovation, remain below the public radar. Societal actors then miss the opportunity to engage in a meaningful dialogue on 'good food' and what that entails for food innovation.

Chapter 4

The validity of these conditions is based on a too narrow view of knowledge, politics and technology. Taken together, these conditions can be held responsible for the implicit dichotomy of hard and soft concerns. This dichotomy obstructs a meaningful and fruitful dialogue on good food and good food technology. As such, it is a serious obstacle to trust between consumers and technology developers. I suggest that we conceive of 'hard' and 'soft' as rudimentary classifications that implicitly follow from the degree to which a concern is considered to meet these three conditions. Concerns are not hard in and of themselves, but implicitly labeled as such as they tend to meet most of the three conditions to a large extent. 'Soft' and 'hard' can best be understood as constructions rather than intrinsic and essential properties of these concerns. A constructivist perspective does not make an issue any less real or serious and it does not imply that all concerns are equally relevant. It only *specifies* what we mean when we

consider concerns as 'hard' or 'soft'.

My discussion of the relatively new issue of food sustainability illustrates that 'soft' and 'hard' are labels that rely on a multi-dimensional, gradual judgment, and can be seen as both the *result* and the *starting point* of a public search for numbers, common values, and causal stories. It highlights what kind of challenges food sustainability as a growing concern had (and still has) to face in order to gain its full recognition as a serious food issue – along the lines of the three agenda conditions.

(I) Back in the 1960ies, environmental concerns failed to meet the condition of publicity. Now, their presence on the innovation agenda suggests a substantial moral agreement among stakeholders, but the issue still hosts a diversity of normative orientations that do not necessarily go hand in hand. There is only very thin common ground, where sustainability is framed as deeply entangled with global food security.

(II) Also, environmental concerns met the condition of quantifiability only to a minimal extent. The history of food sustainability as an issue indicates that quantification does not necessarily *precede* but rather *goes along* with the entrance of sustainability as an issue on the food innovation agenda. The growing recognition of problems can be a driving force behind further measurements. By developing methods, metrics and indicators, pioneers have *made* food sustainability quantifiable. Today, many relevant aspects of food production still are to be quantified.

(III) Concerns about unsustainable food barely met the condition of causality. Virtually any aspect of the food system and its environments can be identified in one way or another as a factor that contributes to unsustainable food production and consumption. Thus, actors concerned with turning our food system more sustainable have suggested a broad range of potential solutions. Most of them recognize that food sustainability is a many-hands problem. Only in a general sense, humans, not technologies (nor nature for that matter) were identified as the cause of unsustainability, but there is little agreement on specific responsibilities for tackling the issue of food sustainability.

The case of food sustainability offers no exception to my claim that the three agenda conditions have to be met before concerns can become legitimate issues on the public food innovation agenda. But it also shows that the *work* that these three conditions imply is not finished as soon as the issue has been granted access to the public innovation agenda. The perfect public issue is not one that is already resolved in the first place; but one that has enough potential to grow, develop, and transform through collective inquiry.

Chapter 5

If concerns generally considered as 'soft' are to be given a fair opportunity to gain access to the food innovation agenda, broadly two directions can be taken. The first is more pragmatic and suitable for short-term improvements of public dialogue. It presupposes that the current three agenda conditions are in themselves reasonable but proposes dialogue parties to adopt, respectively, a strategy of *adaptation* and a principle of *charity.* Here, technology (en)actors and societal actors will have to meet each other 'half way'. The second direction is more critical of these conditions and proposes that facilitators challenge these conditions by setting up dialogues in such a way that stakeholders are encouraged to deliberate on concerns about rather qualitative, morally contested, and technologically mediated impacts of food innovation. I have specified this second approach in chapter 6.

(I) A strategy of adaptation is a way for societal actors to raise concerns generally regarded as soft, and present them as legitimate candidates for the public innovation agenda. I have identified three modes of articulation (strategies) for raising soft concerns – some of which are more promising than others: (1) translation, (2) combination and (3) entanglement. Translation of 'soft' concerns into 'hard' impacts relies on the idea that ethical, cultural or religious concerns can be completely reduced to issues of safety, health, risk or sustainability and expressed in the language of numbers and natural sciences. But if dialogue partners do not already share the worldview implicit to the concern, this is not a promising strategy. The ethical significance of the concern will get lost in public deliberation. Combination of 'soft' and 'hard' concerns occurs where ethical, aesthetic or cultural concerns are

presented as part of a broader agenda that also includes concerns that are publicly well recognized. As it directs our attention to a broader set of issues surrounding food and innovation, combination seems a promising strategy in getting soft concerns on the food innovation agenda. Yet, it allows technology actors to be selective with regard to this broader set, as it does not really challenge the traditional division of responsibilities. Entanglement of specific 'soft' and 'hard' impacts is a way of showing that soft concerns are intrinsically connected with hard impacts. Strong versions of this mode of articulation demonstrate (by means of scientific evidence) why certain 'hard' concerns cannot be adequately taken care of without taking seriously the 'softer' ones. This is a promising strategy especially where it explicitly invites addressees to rethink the current, implicitly shared distribution of responsibilities for good food. My recommendation for societal actors, then, is to align their 'softer' concerns with the conditions of the food innovation agenda by making explicit how their concerns are entangled with more publicly recognized problems.

(II) Technology actors as addressees, on their part, can be more responsive by suspending the application of the three agenda conditions, rather than relying on them as an *a priori* division of responsibilities. They need to assume some degree of reasonableness in concerns – even when not all of the facts, values and causal relations (and consequently, responsibilities) have been agreed upon. The *principle of charity* exactly prescribes such assumption. The principle of charity requires that if you try to understand someone's utterances, you presuppose that his statements are (to some degree) rational, considering the possibility that a coherent and rational interpretation of his statements can be given. The principle reminds us that the alternative is the end of conversation. It appeals to the assumption that other people matter, and that they have something interesting to tell. To act upon this principle is often a leap of faith. Like any principle, it does not prescribe the limits of its own application. But keeping in mind that the end of conversation is the only alternative, the scope of charity ends where the benefit of ignoring 'soft' concerns outweights the potential benefits of understanding them. From a pragmatic point of view, one should remain charitable as long as one reasonably expects that there is still the opportunity to learn about new perspectives and worldviews.

Contrary to the soft/hard dichotomy, the principle of charity does not offer clear and stable criteria according to which technology actors can assess whether they should take any given concern seriously. Rather, it urges them to consider why it is in their interest to get to an understanding of what these 'soft' concerns may be about. Whether or not technology actors should accept a responsibility to *act* upon 'soft' concerns can still be subject to the conditions of quantifiability, publicity and causality. But a charitable response implies that one is willing to suspend those requirements in dialogue, and reconsider assumed responsibilities as soon as a given 'soft' concern turns out to be a legitimate issue over time. My recommendation for technology actors is that, when addressed with 'soft' concerns, they are patient and ask for further clarification, under the presupposition that these are perhaps not that irrational and subjective as they seem at face value.

Thus far, my recommendations for societal and technology actors presuppose that the three agenda conditions are in themselves not unreasonable but need to be used and applied in a more constructive manner. (III) Facilitators, however, in and through their role as 'meta-level actors', have the special capacity to transform our ways of speaking and thinking about food concerns in a more fundamental way, by questioning the validity of the three agenda conditions in and of themselves. That is, certain concerns still require interpretation, rather than calculation, if they are to be taken seriously. Furthermore, provisional, context-specific and practical agreements can be reached even where a fundamental ethical or aesthetic consensus is missing. Also, when food concerns point at many hands problems, they imply that responsibilities for resolving such problems are likely to be shared – e.g. among consumers *and* food technologists – even where causal relations are not specified in an exact manner. These are good reasons for questioning the validity of the three agenda conditions as such. Given these considerations, and those I presented in chapter 3, my twelve recommendations for facilitators are the following.

(1) Mobilize a variety of stakeholders who are likely to draw on different sources of knowledge, values and experiences; (2) Encourage dialogue parties to take into consideration patterns of interaction between the natural, the technological, and the social dimensions of

food; (3) Delay definition issues: encourage participants to ask each other for tentative explanation and clarification of these concerns without forcing them to formulate clear-cut, decisive definitions; (4) Stimulate collective reflection and discussion of epistemic rights and responsibilities for making factual and normative claims. (5) Present a frame, image or narrative that allows most participants to identify, if only provisionally, a situation that is commonly recognized as problematic; (6) Present the establishment of legally binding rules enforced by the state neither as the only resolution to (soft) concerns about technological innovation, nor as the sole purpose of the dialogue; (7) Do not allow participants to conclude too easily that the identified problem is a private matter. (8) Encourage participants to imagine the unintended and unforeseen, yet plausible impacts of the innovation; (9) Stimulate the investigation, perhaps negotiation, of what *good food* is about; (10) Allow participants to imagine and explicate the 'invitations' and 'inhibitions' that food technologies may offer to users, consumers and others who may be affected; (11) Encourage participants to reconsider the current distribution of normative responsibilities. Avoid questions of blame and liability and focus on forward-looking responsibilities; (12) Remind participants that responsibility can be a matter of degree; and potentially shared, in the case of many hands problems.

Chapter 6

As a specification of my recommendations for facilitators, I introduce a specific tool - the techno-ethical scenario - that can be used by facilitators to promote the inclusion of a wider range of ethical, cultural and political concerns. It is a tool for constructive technology assessment (cTA) in a modest sense: rather than having the direct aim of broadening the design of new technologies, it aims to broaden the public innovation agenda. Techno-ethical scenarios have the aim of supporting *anticipation*, *societal learning* and *reflexivity.* But the techno-ethical scenario, and its use in stakeholder dialogues, is distinctive in three ways. (1) It seeks to broaden the innovation agenda to a larger extent than most ELSA programs do, by opening up dialogue for any concern that – at face value – seems to be subjective, private, irrational or irrelevant. (2) Therefore, it is specifically suitable for the assessment of those technological innovations that are easily framed by most stakeholders as *commodities* of the market place. It has a

special eye for the risk of privatization. (3) It has a strong focus on instructive purposes. Making use of DAM, it aims to make dialogue parties aware of how they implicitly claim or reject epistemic rights and responsibilities for issues; and the effects of such talk on the development of conversation.

In 2012-2013, I have put this tool to the test in close collaboration with a research team of philosophers and science communication researchers. As facilitators, we organized three stakeholder dialogues on food technology and innovation. The sessions serve as a proof of concept to see if both my analysis and recommendations are close enough to improve the scope and quality of dialogue – and thus result in a more responsive interaction between societal and technology actors.

For the dialogues, we drafted techno-ethical scenarios according to the following design criteria.

(1) Field specific: the staged controversy in the scenario is about the experience and evaluation of *food* and not technology-centred. (2) Concern-based: the storyline does not exclusively describe hard impacts of technology but rather pictures those societal concerns which are generally considered as soft. (3) Open to interpretation: the storyline describes more of 'talk' than 'action', through which characters express their concerns. These are not presented as a given fact, nor as a problem per se, but as a reported concern, the meaning of which is contested and left open for readers to discuss. (4) Narrative: the use of a story makes the depicted situation more concrete and thus easier to imagine. It offers a sequence of events, decisions and responses, so that the participants are invited to evaluate the course of action taken by the characters. (5) Multi-layered: problems are to be found in concerns about what technology *does*, and how the characters *respond to and discuss* those concerns: a problem of technology and a problem of communication. Even where participants do not initially recognize soft concerns as legitimate issues in themselves, at least they are given a reason to take these concerns seriously as a potential obstruction to successful, socially robust food innovations.

In each of the dialogues, a variety of stakeholders participated from the

food processing industry, private and public research institutes, governmental and semi-governmental policy advice, and consumer-related NGO's. We attempted to bring together participants who may have a strong sense of what good food is about, and have differing perspectives on that question. If no agreement exists on who is to be held accountable for giving meaning and interpretation to the concern at hand, it becomes a dialogue of the deaf. A dialogue more hospitable to soft concerns, then, requires a discussion of *epistemic* rights and responsibilities. Therefore, by means of the Discursive Action Method, we made participants aware of recurring, often implicit interactional patterns that hinder open communication between stakeholders.

In order to encourage participants to deliberate on present and future responsibilities for impacts of food technology and innovation in a constructive manner, the introductory part of the sessions also featured a short discussion of how to approach the notion of *responsibility*. In order to avoid discussions of blame and liability, we asked the participants to focus on forward-looking responsibilities. Also, we presented them with an illustrative case from which it became clear that responsibility is not necessarily attributed to single individuals but sometimes can be shared. Furthermore, we suggested to participants that there is a space in between state legislation on the one hand, and privatization on the other, for potential resolutions for moral conflict. We did this by both scenario design and moderation of the discussion.

In the sessions we observed that participants gained a shared insight into the interactional effects of implicit claims to epistemic authority for the progress of a conversation, but we are not sure if this understanding also fed into the subsequent discussion of the scenario. At least we noticed that participants affiliated with industrial engineering and food science displayed a more responsive and open attitude with regard to the notion of naturalness than we observed in our earlier analysis of food controversies. Occasionally, participants seemed reluctant to further elaborate on the concept of naturalness – typically regarded as a 'soft' concern. As the dialogues proceeded, however, participants eventually arrived at an implicit agreement *that* the developments as envisioned in the scenario were problematic. Especially in the third session, participants were willing and able to

articulate specific ideas about natural food: what it means and why it is important to them. More than in the other sessions, these participants were more eager to explore and negotiate the meaning of naturalness.

Scepticism about the possibility of ever reaching consensus on a clear definition of naturalness posed a serious obstacle to the discussion of consequent responsibilities, but eventually, in all of the sessions, several different notions of 'natural' were brought to the table. Rather than taking a strong and confident stance, the participants tentatively explored the concept of naturalness by probing the concept and negotiating its limits of application. While *specific* responsibilities were not discussed at all, most participants seemed to agree *that* the concern about naturalness is worth of serious consideration, and *that* this concern requires a collective organization of responsibilities. Some of the participants were able to draw explicit links between the epistemic and normative status of naturalness on the one hand, and taking forward-looking responsibilities for natural food on the other.

The report of these dialogues does not provide a full-blown experimental proof of the validity of this approach, nor does it pretend to do so. Rather it provides a 'proof of concept'. As a practical suggestion for facilitators, it should provide an idea of how it can be done. The scenarios used by us are prototypes to be further developed, and should indicate where to start and what direction to take. The difficulties we faced in organizing a stakeholder more hospitable to 'soft' concerns provide with additional evidence for my analysis of the public discourse of food technology and innovation: stakeholders share deeply held convictions about the relevance, cogency and public significance of certain types of food concerns and their consequent hierarchy. Apparently these persistent convictions are hard to tackle, arguably because they are embedded in broader conceptions of science and knowledge, ethics and politics, technology and responsibility. But taking into account the actual advances that we have made with our approach in challenging the soft/hard dichotomy, these are good reasons for further developing and testing this approach, and making it work in sustainable, on-going stakeholder dialogues and public debates on the question of good food.